The MTA service policy was adopted in 1986 and revised in 1993 for the opening of rail service. Since then, there have been significant changes in the operating environment, including the expansion of rail service, the establishment of Service Sectors, and greater emphasis on MTA's regional role. A new policy was developed to address these changes and to reflect the agency direction.

This report provides a brief discussion of specific guidelines and is organized into six sections:

- Purpose and Background
- Bus Route and Design Guidelines
- Bus Performance Measures
- Rail Policies
- Planning Process
- Conclusion

1.1 Purpose

The purpose of the policy is to direct decision-making during the service change process and ensure a fair and consistent evaluation of service. It calls for service adjustments that best meet customer needs and expectations within the constraints of the budget and equipment availability. For the public, the policy communicates agency priorities and initiatives.

Transit Policy:

- *Guides decision-making;*
- *Promotes consistency among Service Sectors;*
- *Links service changes and strategic plan; and*
- *Communicates agency priorities.*

Key Policies:

Increasing Ridership

- The network structure shall maximize regional mobility.
- The MTA will focus its service investment on providing high quality service to major travel markets within Los Angeles County.
- Corridors served by bus routes that offer service frequencies of 5 minutes or less will be candidates for Metro Rapid, the deployment of high capacity vehicles and bus preferential treatment (e.g. signal programs, bus lanes etc).
- Resources will be allocated in a manner that balances customer expectations with the fiscal responsibilities of the agency.

- Sufficient seating capacity will be offered on Metro Bus and Metro Rail lines to meet the need of MTA's current and future riders, and ensure that patronage is not discouraged by overcrowded vehicles.
- All bus routes shall provide at least a 30-minute service during weekday rush hours, as resources permit. Routes that cannot support this level of service should be modified or operated by other means.
- Annual reviews of the operation will be conducted to assess customer satisfaction and service delivery.

Transit Policy Goals:
- *Increase Ridership*
- *Improve Service Quality*
- *Use Resources Wisely*

Using Resources Wisely

- The performance of each bus route in the system will be evaluated annually and bus lines not meeting the performance standards will be modified. Bus lines that do not meet the minimum performance standard after 18 months of operation will be cancelled.
- The MTA will assist in funding and operating shuttles, circulators and neighborhood-oriented services only when there is a demonstrated need and no other entity available to provide the service.
- New services will be considered for implementation when there are available resources and if ridership projections indicate the potential to support 30-minute service and to meet the minimum performance standard.
- The MTA will review its service and work with the local bus operators to reduce service duplication that results in a sub-optimal use of resources.
- Decisions regarding the provision of service will consider the cost effectiveness, appropriateness and operating roles of other operators, as well as alternative service delivery options.

1.1.1 Link to the MTA Strategic Performance Program

The MTA Strategic Performance Program (FY 2003-2007) sets the agency direction for the next five years and establishes a framework for key agency plans and policies. The MTA transit service policy was developed to support the MTA vision, mission and key objectives of the strategic plan.

below:

nation in safety, mobility and customer satisfaction.

MTA Strategic Plan Goals and Objectives

Goal 2	**Improve transit systems**
Objective B	Improve service quality for the bus system
Objective C	Improve service quality of the rail system
Objective D	Increase capacity of the MTA transit system
Goal 4	**Create a positive image of the MTA**
Objective	Increase awareness and improve public participation
Goal 6	**Provide leadership for the region's mobility agenda through responsive planning and resource allocation**
Objective	Provide quality planning, technical analysis and programming

***Mission**: MTA is responsible for the continuous improvement of an efficient and effective transportation system for Los Angeles County.*

1.2 BACKGROUND

The MTA has the third largest bus fleet in the United States, the world's largest CNG bus fleet and one of the most heavily patronized light rail lines in the nation. During the current fiscal year, over 425 million passengers are expected to board MTA bus and rail lines.

The MTA is the principal transit provider in Los Angeles County, serving about 75 percent of all transit trips. Over the next 25 years, the population of Los Angeles County will increase by 2.8 million. As congestion increases and auto speeds decline, more and more people are turning to public transportation. Keeping pace with growing demand is a challenge. Adding to the complexity is the fact that travel patterns are becoming more dispersed and new funding is very limited.

Improving the safety, capacity and quality of the Metro Bus and Metro Rail service is a top agency priority. To do this, the MTA is focusing on serving major travel markets and implementing a series of progressive strategies to improve service productivity and attract new riders. These strategies include improving service quality, restructuring the bus system; expanding the Metro Rapid program; deploying high capacity buses; providing a universal fare system; expanding signal synchronization for transit, implementing Metro Rapidway service, and increasing service coordination efforts with the other operators in the region.

MTA

- *The bus system includes 185 routes and operates with over 2,000 buses during rush hour.*
- *MTA has the 3rd largest bus fleet in the United States and the world's largest CNG Fleet.*
- *Metro Rail has 4 rail links including a subway and 3 light rail lines, with over 60 miles of track and 64 stations.*
- *The Metro Bus and Rail systems transport over 1.3 million passengers daily.*

The MTA is working with the other local transit operators to develop a world-class public transportation system in Los Angeles County that is safe, customer driven, regionally oriented and efficient. As part of this effort, the MTA is developing plans to restructure the Metro Bus system beginning in FY 2004. The restructuring will change service from the current grid network to a hub and spoke network. The MTA Transit Service Policy has been designed to support this transition.

"Hubs": Transit centers where buses connect to increase travel options for the riders.

"Spokes": Bus routes connecting the centers -High speed/ long distance service's and -Shorter feeder type service.

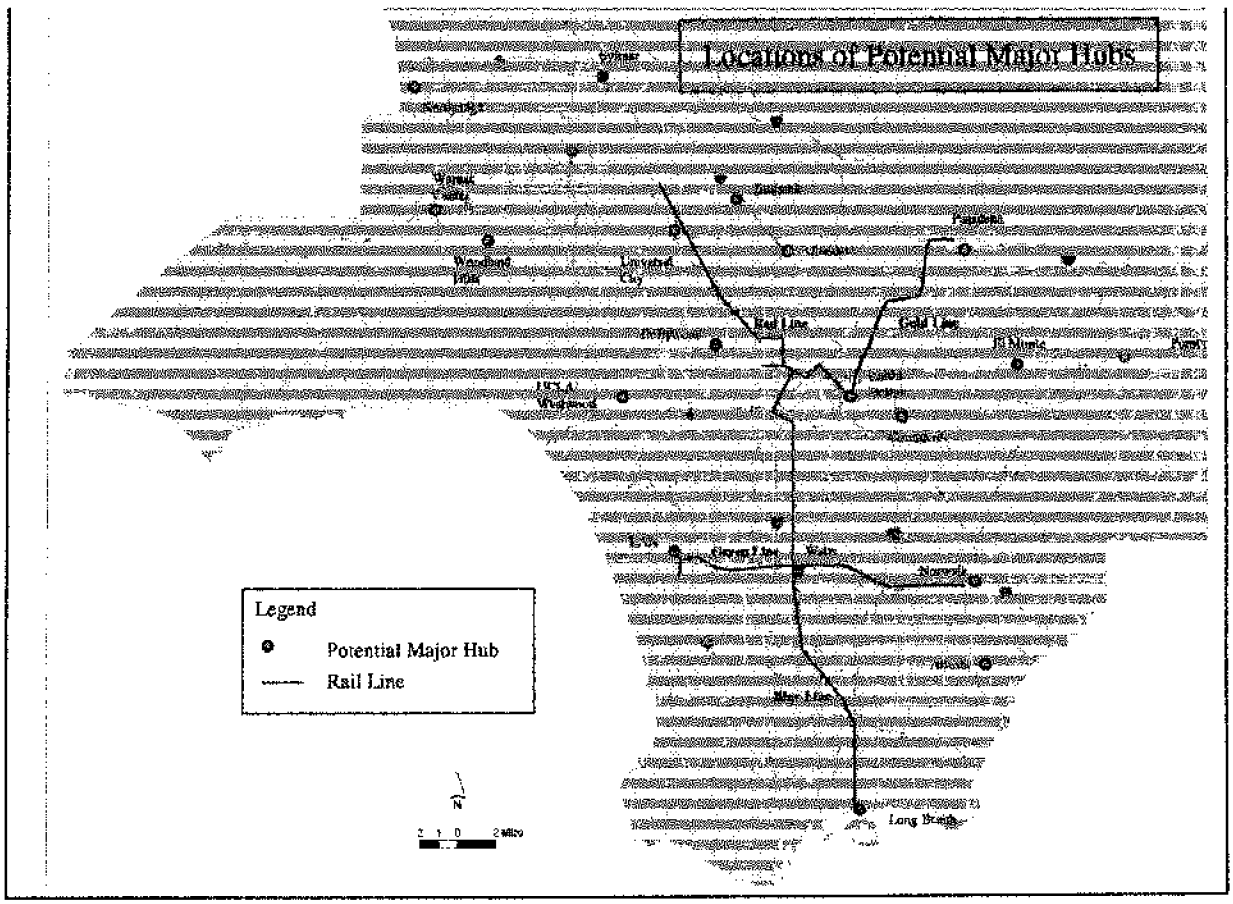
Key objectives of the hub and spoke restructuring are:

- Increase system ridership and attract more discretionary riders,
- Reduce transit travel times,
- Improve Metro Bus on-time performance
- Increase Metro Rail ridership
- Improve operational efficiency
- Make better use of regional transit resources through increased service coordination.

Hub and spoke refers to a transit network that uses major employment areas and transit centers as focal points, or transit hubs. Local bus routes and feeder services connect with regional services at these locations, linking them with other activity centers and residential areas. A key feature of this type of network is to strengthen the role of high capacity modes, such as the rail system. This is accomplished by having local bus service feed the rail system at key rail stations serving as hubs.

The heart of the hub and spoke effort is the creation of a network of transit centers throughout Los Angeles County. Preliminary plans are calling for 19 hubs at major activity centers and key transit transfer locations. Examples of potential hubs would include: LAX/Aviation Green Line Station, Union Station/Patsouras Plaza, Universal Red Line Station, El Monte Transit Center, and the Long Beach Transit Mall. Several of these locations do not have room for additional bus routes. In the interim, different types of routing strategies, such as remote layover or through routing of service, will be required. In the long term, a facility improvement plan will be developed.

As part of the transition to the hub and spoke network, many of the existing bus lines will be restructured and new bus lines will be established. Many existing services will be streamlined or shortened to provide more direct service to major destinations and to improve on time performance. New bus lines will be of two varieties. The "spokes" would be shorter feeder services that would collect and distribute commuters traveling to or from the hubs. Additionally, there would be longer routes that would connect major hubs. These routes would use bus lanes or other methods to expedite the operation.



The MTA will focus its transit role on providing regional services such as Metro Rail, Metro Rapidway and Metro Rapid. These services are the spokes. They form a high speed/ high frequency/ high capacity network connecting the transit hubs. The role of municipal operators will expand, especially with respect to operating local and feeder services. They will operate much of the network that connects other activity centers and residential areas with the hubs.

Preliminary plans for the hub and spoke system will be developed by January 2004. The implementation of the new system is scheduled to begin June 2004. It will take about 2-3 years to phase in all of the service changes.

GUIDELINES

Bus route and service design guidelines are used in the development of proposed new services, the evaluation of existing services, and the evaluation of proposed modifications of existing services. The following guidelines are used to maximize the overall usefulness of the system to riders, ensure the consistency of route structure, and provide objective and consistent criteria for the establishment of service. They are used during the planning process to strike a balance between service attractiveness and resource availability.

The MTA operates an integrated transit system designed to focus on regional travel markets. It provides effective linkages and seamless connections with the other public transportation services within Los Angeles County.

2.1 TYPES OF MTA BUS SERVICE

Metro bus services are classified into five service categories, which reflect their functional and operational characteristics: These categories become the framework by which transit services will be developed, modified and evaluated. A summary of the features characterizing each service category follows:

- Metro Rapidway – Metro Rapidway is a new service that is yet to be implemented. It is a bus rapid transit service that will operate in a dedicated right-of-way. Metro Rapidway service will be introduced in the San Fernando Valley Sector along the Chandler Corridor and in the Westside Central Sector along the Wilshire Corridor.
- Metro Rapid – Metro Rapid is an expedited bus service that is being introduced in the most heavily traveled corridors. It features specially painted buses, signal priority and special stations. Currently there are 6 Metro Rapid lines in operation and there are plans to implement 21 additional Metro Rapid lines. Metro Rapids are designated with route numbers between 700 and 800.

  Metro Express – Metro Express bus service usually operates daily peak service only from a collector area directly to a specific destination or in a particular corridor with stops en-route at major transfer points or activity centers. A major portion of the service is operated along freeways and busways. There are approximately 20 express bus routes. Some express service operate all day and on weekends. These services are designated with route numbers between 400 and 599.

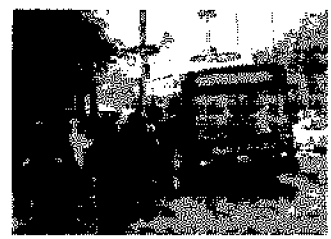
MTA. This service includes approximately 150 bus routes that account for over 75 percent of the annual ridership. Some local bus routes operate a limited stop service and/or owl service. These services are designated with route numbers between 1 and 399.

- Metro Rail Feeder and Shuttle Services - These are local circulation, special event shuttle and rail feeder services. These bus routes generally operate on secondary streets and focus on short distance markets. These services are designated with route numbers between 600 and 699.

In addition to classification of transit services by type, services can also be classified by tier (see Appendix A).

2.2 METRO RAPID DESIGN CRITERIA

The Metro Rapid program is based on Curitiba, Brazil, urban design and public transportation model. This model uses 13 key design attributes in the development of Bus Rapid Transit service. The initial Metro Rapid services incorporated seven of these features, while the remaining six will be incorporated during the expansion of the program. Design features included in the initial stages of the program are: a simple route layout, frequent service, headway based schedules, and less frequent stops. Level boarding and alighting, color-coded buses and stations, and bus signal priorities are also key design features.



CURITIBA KEY ATTRIBUTES

Curitiba Key Attributes	Phase I Demonstration	Phase II Expanded system
1. Simple Route Layout	Yes	Yes
2. Frequent Headways	Yes	Yes
3. Less Frequent Stops	Yes	Yes
4. Level Boarding and Alighting	Yes	Yes
5. Color Coded Buses and Stations	Yes	Yes
6. Station Stops	Yes	Yes
7. Signal Prioritization	Yes	Yes
8. Exclusive Bus Lanes	No	Yes
9. Higher Capacity Buses	No	Yes
10. Multiple-Door Boarding and Alighting	No	Yes
11. Fare Prepayment	No	Yes
12. Feeder Network	No	Yes
13. Coordinated Land Use Planning	No	Yes

Design features that may be added during the expansion of the program include: exclusive lanes, higher capacity buses, and multiple doors boarding and alighting to expedite the operation. Off-vehicle fare

funds, or other regional funding programs such as the Transit Service Expansion Program, Proposition A and C Incentives Program and the Formula Allocation Process. However, these funding programs are generally at their limit. New services that meet a regional need will be considered on a case-by-case basis and will require a specific funding agreement with MTA.

2.5 ALTERNATIVE SERVICE DELIVERY METHODS

Alternative service delivery options are other methods of providing service other than a standard transit bus that is directly operated by an MTA employee. These options include van service, taxicabs, flexible destination operations, contracted services, scrip programs and beginning tier/wages operators. When designing new services or assessing marginally performing existing services, each of these delivery options should be considered.

2.6 BUS/RAIL INTERFACE GUIDELINES

As the Metro Rail system expands, adjustments are made to the bus system to improve access to rail stations; to take advantage of new transfer facilities and to reduce bus and rail service duplication. The following guidelines provide direction to routing and scheduling changes that will be necessary as the Metro Rail system is expanded:

- Cancellation of Parallel Limited and Express Service: Competing limited stop and express service, which parallel the rail corridor, will be discontinued when duplication exists.
- Diverting Service: Bus routes that run parallel to a rail line may be diverted to a station when:
    - The walk time from the nearest station is greater than 3 minutes.
    - The diversion time in one direction is 5 minutes or less.
    - The average three hour peak load factor is less than 50 percent .
    - There is a net travel time benefit for connecting and through traveling riders.

Intersecting bus lines or bus lines that travel in a perpendicular direction to a rail line will be diverted to serve the closest rail station when:

- The diversion time in one direction is 5 minutes or less.

percent.

- There is a net travel time benefit for connecting and through traveling riders.

- Extending Terminating Lines: Bus routes that end within one mile of a rail station will be extended to terminate at the station. Routes that terminate at distances greater than one mile may be extended if the rerouting will create a valuable link to the rail system or will result in a reduction in travel time for a significant number of riders.
- New Bus Routes: New rail feeder service will be considered as part of the service change process, if there is a need that can be demonstrated, available funding, and as part of the service change process.
- Scheduling Bus Interface: During peak travel periods, bus arrival and departure times should be governed by the rail arrival and departure times when predominant movement is from bus to rail. During off-peak times, bus routes with frequencies of 20 minutes or greater and that terminate at a rail station, should be scheduled to arrive 5 minutes before the rail departure time. When the predominant movement is from rail to bus, terminal buses should also be scheduled to depart 5 minutes after the scheduled rail arrival time.

2.7 BUS STOP SPACING

Bus stop spacing refers to the average distance between consecutive stops on a bus route. Bus stop spacing is dictated primarily by land use characteristics, walking distances density of development along a route and type of service. Greater stop spacing allows transit vehicles to achieve higher average speeds and improve travel time for passengers, while requiring passengers to walk a further distance to access service. Closer stop spacing provides greater accessibility to passengers, increasing convenience, while reducing the speed of the operation. Where possible, stops shall be planned in a manner that provides convenient access and reasonable speed.

Bus Stop Spacing Guidelines

Location	Recommended Spacing Range
Major Commercial Centers	500-800 feet
Urban Areas	700-1000 feet
Suburban Areas	1000-1500 feet

depending on population and transit dependency. In less developed areas, stops will be located from ¼ to ½-mile apart whenever practical. For Metro Rapid service bus stop spacing ranges from 0.75 mile to 1.0 mile. It is the policy of the MTA to establish stops and zones in a manner that is mutually acceptable to the MTA and the jurisdiction in which they are located.

2.8 DUPLICATION OF SERVICE

Service duplication occurs when two or more bus routes operated by one or more carriers serve the same roadways in a transit corridor. Duplication is not desirable in those instances where it is avoidable and it results in either sub-optimal resource utilization or passenger confusion caused by different fare structures applied to the same set of origin/destination pairs. Transit operations along the El Monte Busway provide good examples of this condition where MTA and Foothill Transit provide duplicative service between the El Monte Station and Downtown Los Angeles.

Under certain operational conditions, (road construction, traffic congestion, etc.) some duplication of an MTA route segment may occur by other operators. If the duplication impacts MTA Ridership, the MTA may require restricted operations, such as a closed-door operation by the duplicating agency.

2.9 FREQUENCY OF SERVICE

The frequency of service refers to the interval of time, expressed in minutes, between consecutive trips on a transit line. All MTA bus routes are scheduled based on demand, using the passenger loading standards in Section 3. The following table defines the maximum headways for each service type.

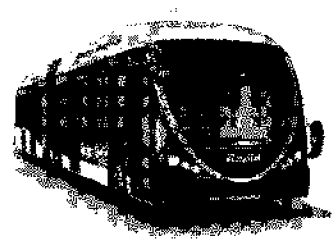
Maximum Service Frequency

Service	Peak	Midday	Evening /Owl	Weekends
Metro Local	30	60	60	60
Metro Express	30	---	---	---
Metro Rapid	10	20	20	20
Metro Rail Feeder/Shuttle	30	60	60	60

An overall MTA service improvement goal is to ensure that all MTA bus lines provide at least a 30-minute peak hour service along the trunk portion of the route. Currently, about 40 MTA bus lines operate with peak trunk headways that are greater than 30 minutes. These lines are

listed in Appendix B. Beginning with the fiscal year 2004 Service Change Program these lines will be reviewed for potential headway

2.10 HIGH CAPACITY VEHICLES



High capacity vehicles are vehicles that have 45 seats or more. Conventional transit buses offer seating for about 40 passengers. Ideally, high capacity vehicles are used on lines with high ridership demand where there would be an opportunity to reduce vehicle requirements and service hours, thereby reducing overall operating costs. However, their deployment should not increase service intervals to the point where riders notice degradation in service quality. For this reason, bus lines with peak frequencies of five minutes or less are ideal candidates for this type of vehicle. In evaluating services for higher capacity vehicles other factors must be considered, including: facility compatibility, street design and potential impacts to services where schedules have been interlined.

2.11 NEW SERVICE GUIDELINES

Proposals for new service come from a variety of sources including: customers, employees, technical studies, and from reviewing system performance and the development process. These proposals are considered during the development of service change programs, based on customer need and resource availability. As part of the evaluation process, opportunities to satisfy the request with existing service of MTA or other local operators are also explored.

New services are only implemented where projections indicate that ridership can support at least 30-minute peak hour headways and can meet the minimum productivity standard.

After one year of operation, new services are included in the annual service review and must meet the minimum productivity standard.

2.12 ROUTE SPACING

Route spacing refers to the average distance between two or more parallel bus routes. This is a measure of service accessibility. Bus service is designed to link transit oriented communities with educational, shopping, employment, recreational and health care centers. In core-developed areas, routes should be spaced approximately ½-mile apart. In residential areas routes will be spaced approximately 1-mile apart, and in

and services operated by other operators are considered when measuring compliance with these standards.

Bus Route Spacing Guidelines

Development Characteristics	Distance Between Parallel Routes*
Urban	½ mile
Suburban	1 mile
Low Density Residential/Undeveloped	As needed/Pursue alternative delivery methods

* Includes MTA bus and rail services, as well as services of other operators

2.13 SERVICE WARRANTS

Service warrants are minimum demand thresholds that are used to identify the most effective transit solution for a particular corridor. In public transportation, there are a variety of service solutions available. These range from paratransit service to heavy rail. Paratransit service is generally any public transportation service operated with a vehicle smaller than a 30-foot transit bus. It can include Dial-A-Rides, Shuttles, Circulators and subsidized taxi programs.

Determining the most appropriate transit service in a corridor depends on a number of factors, including level of demand, resource availability, site or corridor characteristics, environmental considerations and community acceptance. Service warrants, shown on the following page, are guidelines that are used during the initial review of new service proposals, such as the expansion of the rail or Metro Rapid programs and when considering proposals to upgrade existing operations. The MTA service warrants use minimum demand thresholds and corridor characteristics to help identify the appropriate service type and to select candidate corridors for major investment. The demand thresholds include the combined ridership levels for all services operating in the corridor.

SERVICE	DESCRIPTION	WARRANT(S)
RAIL		
Heavy Rail	Operating 100 percent within an exclusive right of way.	3,000 boardings or more in the peak hour and direction of travel. Total daily boardings greater than 50,000. Ability to construct a fully grade separated facility.
Light Rail	Operating in mixed flow traffic or within an exclusive right of way.	1,500 boardings or more in the peak hour and direction of travel. Total daily boardings greater than 25,000. Ability to construct a guide way within or adjacent to the corridor.
BUS		
Expedited Transit Bus	A regular or articulated bus operating in a fixed guide way or a limited stop service in mixed flow with signal priority treatment.	300 or more boardings during peak hour and in peak direction of travel. Daily average of more than 500 boardings per route mile or over 10,000 total daily boardings. Ability to implement operating speed improvements in the corridor.
Standard Transit Bus	A 30-40 foot bus operating fixed route/fixed schedule in either local or express mode.	80 or more passengers during peak hour and in a single direction of travel. Total daily boardings greater than 2,000.
Paratransit Service	Service operated with a van, sedan, mini-bus or other vehicle smaller than a 30-foot transit bus (Dial-A-Ride, Shuttles, Circulators and subsidized taxi, etc.).	Services that do not meet the standard transit bus warrants are only operated by MTA when there is a demonstrated need and no other operator available.

Span of service refers to the hours that service is available on a given day and defines the minimum period of time that service will operate at any point in the system. This provides customers with the confidence that direct and connecting service will be provided.

Some of the criteria used to determine the span of service on a bus route include: existing ridership and productivity levels, the span of service on connecting and alternative services with expanded service; resource availability, customer requests; and the hours of operation of major job sites or activity centers along the alignment.

Span of Service

Service	Weekday	Weekends
Metro Local	5am - 11pm	6am - 9pm
Metro Express	Peak Hours Only	N/A
Metro Rapid	5am - 9pm	6am - 9pm
Metro Rail Feeder/ Shuttle	5am - 9pm	6am - 9pm

The above table summarizes the approximate span of service for each service type. The hours of operation on individual bus routes or rail lines are ultimately based on demand and resource availability. For example 18 of the busiest local bus routes operate 24 hours a day and selected express services operate all day and on weekends.

2.15 SPECIAL EVENT SERVICE

Special event services are bus routes that are designed to take passengers to a specific venue and are not part of the regular scheduled operation.

The MTA will provide service under contract to other entities only if the provision of these services do not interfere with the MTA's ability to meet its regularly scheduled service obligations and fits within the scope of the agency's regular operation, in terms of route structure, fares and span of service. Contracted services will be provided on a full cost recovery basis.

[illegible]

Performance measures are used to evaluate MTA bus service. They address customer satisfaction, passenger loading and productivity.

3.1 ANNUAL SHOPPER SURVEY

A shopper survey is an interactive survey used to measure how well corporate initiatives and customer service objectives are being implemented. During these surveys, a team of riders uses the system and evaluates service from the customer's perspective, based on specific criteria set by the client. Results from these surveys help to target service campaigns and training programs to improve customer satisfaction.

Beginning in FY 2004, annual shopper surveys will be conducted. The shopper survey may include such things as: telephone call wait time and accuracy of information provided through the information center; enforcement of fares; cleanliness and staffing at major transfer centers; fare box and ticket vending machine defects; stop announcements by operator, and the handling of passengers using wheelchairs or with other special needs.

3.2 PASSENGER LOADING

Passenger loading is a measure of seating capacity on a bus or rail car. It is typically expressed as a percentage of the total passengers on board a vehicle compared to the seats available. These standards are set at a level to offer sufficient seating capacity on Metro Bus and Metro Rail lines to meet the need of MTA's current and future riders, and ensure overcrowded vehicles do not discourage patronage.

Passenger Loading Standard

Service	Standard
Metro Bus	120%

The table above shows the current passenger loading standard for Metro Bus service.

3.3 PRODUCTIVITY GUIDELINES AND ANNUAL LINE REVIEW

Productivity guidelines are used to ensure that MTA services are effective and provide a reasonable return on investment. These measures are applied to all MTA bus routes in operation for more than a year.

service change process. Corrective actions could include marketing, service restructuring, serving the demand with an alternative service or elimination of service. The chart on the following page outlines the annual service performance review process and the application of the minimum productivity standard for MTA bus service.

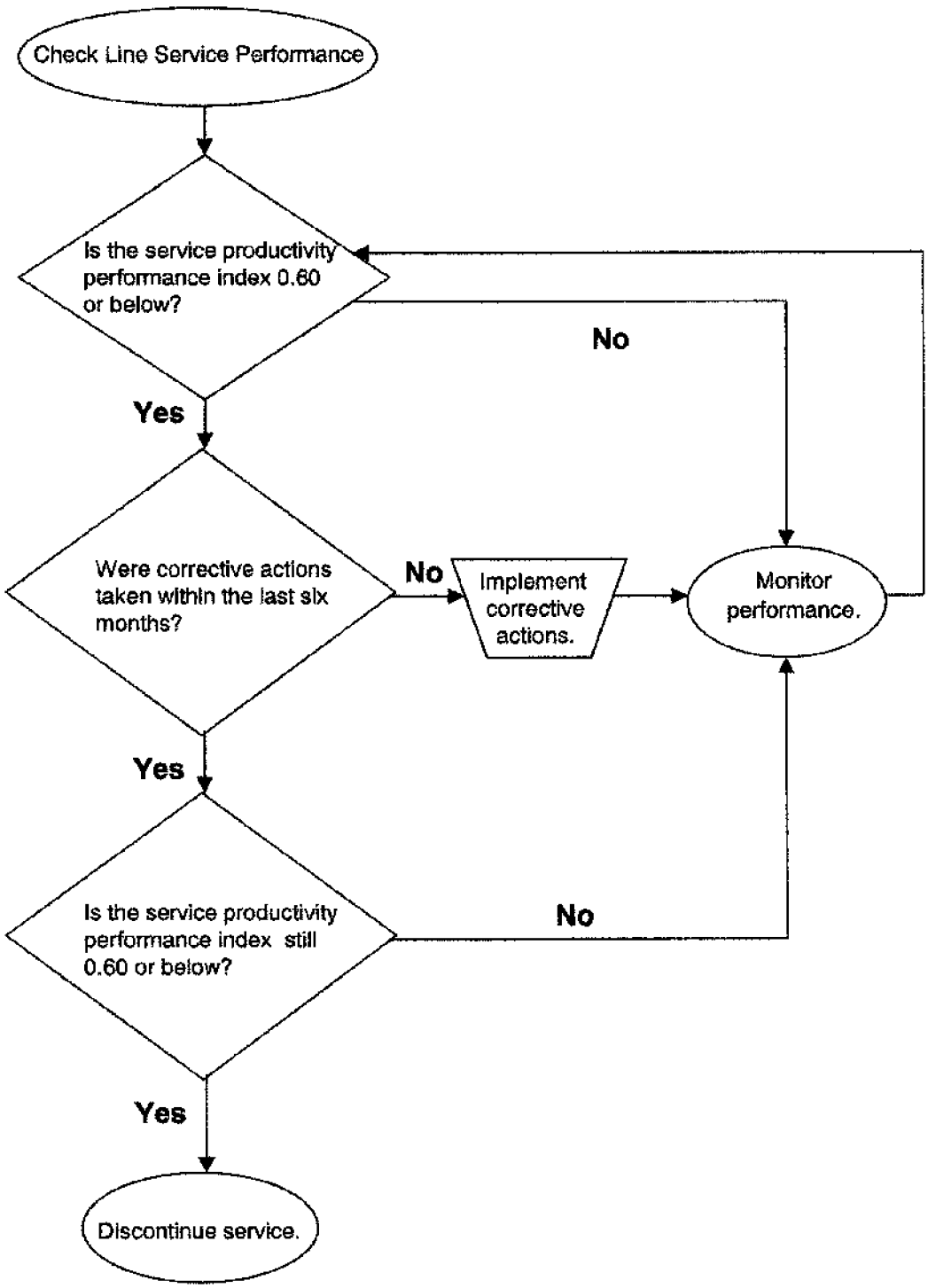
The evaluation process focuses on three factors:

- Utilization of Resources – Passenger boardings per service hour is used as a measure to determine how effectively resources are being used. This measure is determined by dividing the total number of boardings on the line by the service hours operated. Routes having a higher number of passengers per hour represent a better utilization of resources such as buses, operators and fuel.
- Utilization of Capacity – Passenger miles per seat miles is the measure used to evaluate how well the seating capacity of the system is being used. Passenger miles are calculated by multiplying the average distance traveled per passenger by the number of passengers using the service. Seat miles are calculated by determining the number of seats per vehicle by the number of service miles operated. The higher the resulting number, the greater the utilization of system capacity.
- Fiscal Responsibility – Subsidy per passenger is the measure for fiscal responsibility. Subsidy refers to the amount of pubic funding required to cover the difference between the cost of operation and the passenger revenues collected. Higher subsidy services require more public funding support.

During the evaluation process, a route performance index is developed and used to objectively measure the performance of each route in the system, relative to other routes in the same category. The following categories are used during the performance evaluation process:

- Metro Local
- Metro Express
- Metro Rapid
- Metro Rail/Feeder Shuttles

Specific indices are developed for each measure and category of service performance. Lines with an index of 1.0 perform at the category average, while lines with an index of less than 1.0 perform below the average. Routes with a performance index lower than 0.6 are defined as performing poorly and targeted for corrective action. Lines that have been subject to corrective actions and do not meet the 0.60 productivity index after six additional months of operation will be cancelled. Appendix C contains a more detailed discussion of how the productivity index is developed.


Check Line Service Performance
Is the service productivity performance index 0.60 or below?
No
Yes
Were corrective actions taken within the last six months?
No
Implement corrective actions.
Monitor performance.
Yes
Is the service productivity performance index still 0.60 or below?
No
Yes
Discontinue service.

SECTION 4: RAIL SERVICE POLICIES

The Metro Rail system includes a subway (Red Line) and three light rail lines (Blue Line, Green Line and Gold Line). On an average weekday, there are over 220,000 boardings on the Metro Rail system. The rail system is operated within dedicated right-of-ways and has the ability to move large numbers of people along congested corridors, while having little impact on street congestion. For these reasons, the Metro Rail system serves as the backbone of the public transportation system.

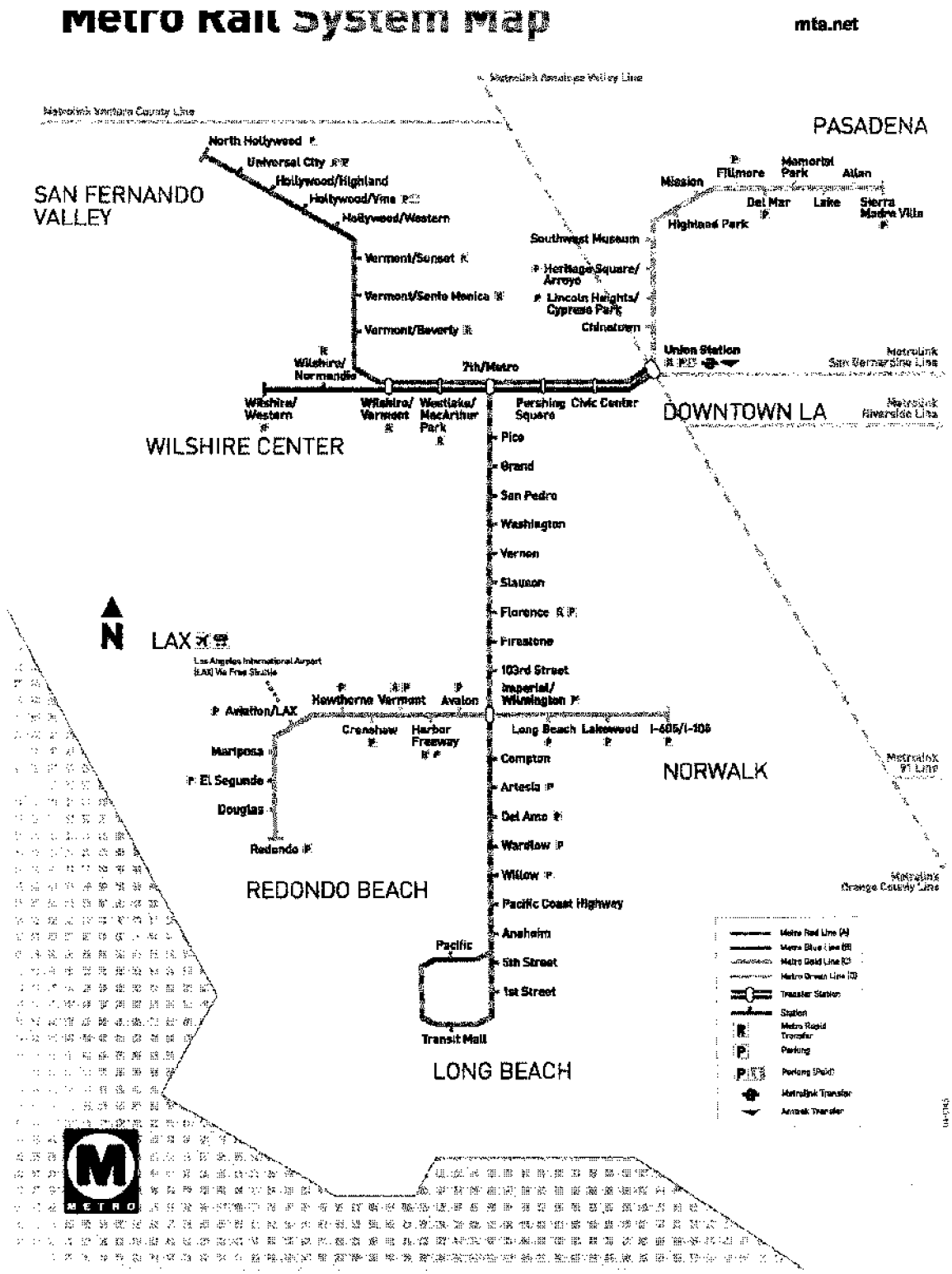
Metro Rail service operates along a fixed network. The system is undergoing expansion and ridership levels have not yet stabilized. Current planning efforts are focused on matching service levels with demand. Key rail policies address the frequency of service, span of service and passenger loading.

4.1 FREQUENCY OF SERVICE

The frequency of service refers to the interval of time, expressed in minutes, between consecutive trips on a transit line. The frequency of service on rail lines is determined based on policy and demand. Service frequencies are set in a manner that ensures a reasonable, attractive level of service is provided throughout the day and to provide sufficient capacity to adequately meet ridership demand. The table below defines the maximum (longest) headways for each service period operated by the MTA along the trunk portion of a line. Service along branches may be less frequent.

Recommended Maximum Frequency

Service	AM/PM Peak	Midday (9am-3pm)	Evening (6pm-9pm)	Night (9pm-2AM)	Weekends
Light Rail (Blue Line, Green Line, Gold Line)	15	15	20	20	20
Heavy Rail (Red Line)	5	7	12	12	12


Metro Rail System Map
mta.net
PASADENA
SAN FERNANDO VALLEY
North Hollywood
Universal City
Hollywood/Highland
Hollywood/Vine
Hollywood/Western
Vermont/Sunset
Vermont/Santa Monica
Vermont/Beverly
Wilshire/ Normandie
Wilshire/ Western
Wilshire/ Vermont
Westlake/ MacArthur Park
WILSHIRE CENTER
7th/Metro
Pershing Square
Civic Center
Union Station
DOWNTOWN LA
Metrolink San Bernardino Line
Metrolink Riverside Line
Mission
Fillmore
Memorial Park
Allen
Del Mar
Lake
Sierra Madre Villa
Highland Park
Southwest Museum
Heritage Square/ Arroyo
Lincoln Heights/ Cypress Park
Chinatown
Pico
Grand
San Pedro
Washington
Vernon
Slauson
Florence
Firestone
103rd Street
Imperial/ Wilmington
Long Beach
Lakewood
I-605/I-105
NORWALK
Metrolink 91 Line
Metrolink Orange County Line
N
LAX
Los Angeles International Airport
Aviation/LAX
Hawthorne
Vermont
Avalon
Crenshaw
Harbor Freeway
Mariposa
El Segundo
Douglas
Redondo
REDONDO BEACH
Compton
Artesia
Del Amo
Wardlow
Willow
Pacific Coast Highway
Anaheim
Pacific
5th Street
1st Street
Transit Mall
LONG BEACH
Metro Red Line (A)
Metro Blue Line (B)
Metro Gold Line (C)
Metro Green Line (D)
Transfer Station
Station
Metro Rapid Transfer
Parking
Parking (Paid)
Metrolink Transfer
Amtrak Transfer
METRO

approximate span of service for light and heavy rail service is summarized below.

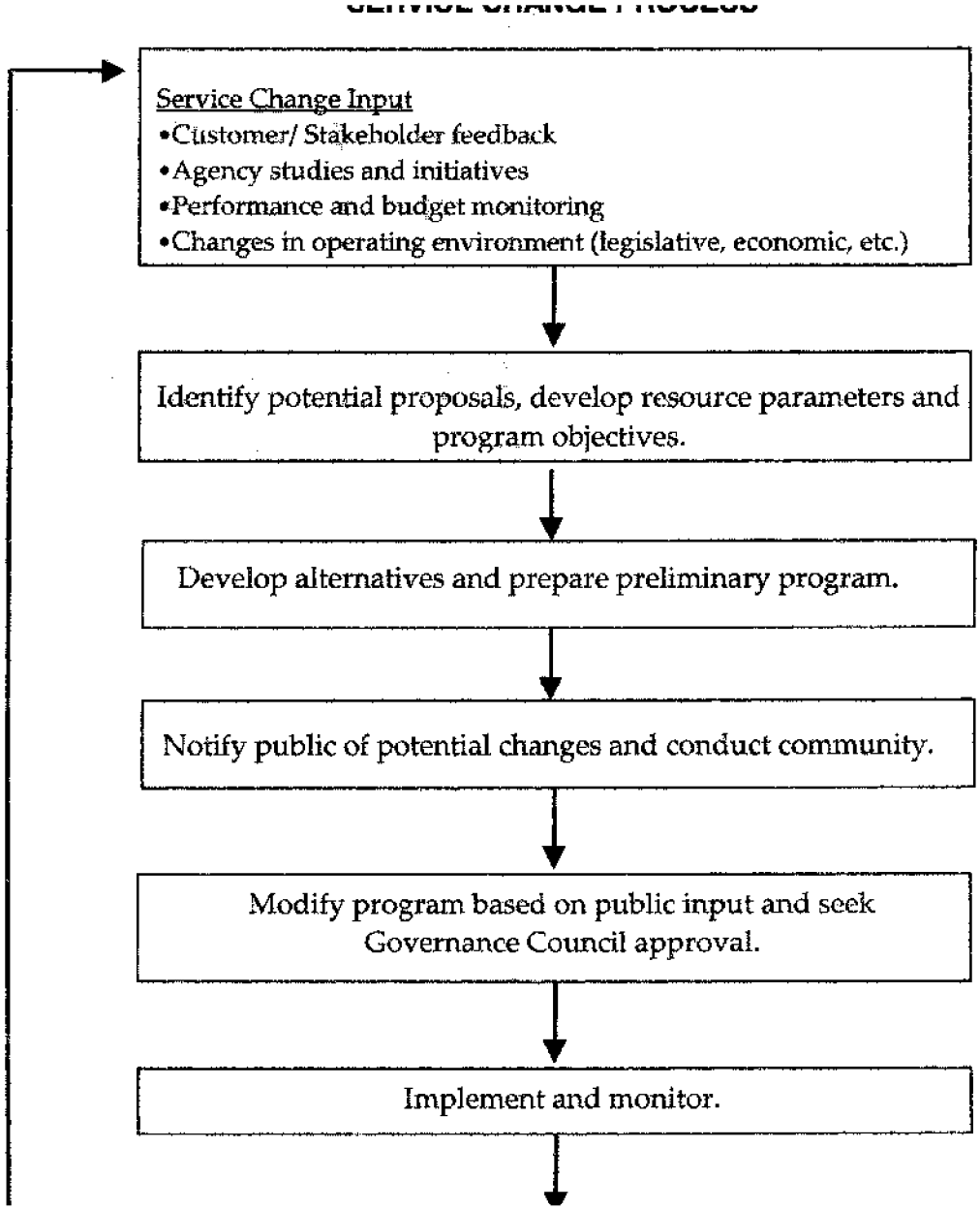
Approximate Span of Service

Service	Weekdays	Weekends
Light Rail (Blue Line, Green Line, Gold Line)	3:50 am – 2:00 am	3:50 am – 2:00 am
Heavy Rail (Red Line)	4:30 am – 1:30 am	4:30 am – 1:30 am

Passenger Load Standards

Service	Standard
Light Rail	190%
Heavy Rail	230%

The above table shows the current passenger loading standards for each service type. The standards vary to reflect differences in seating and available space for standees by vehicle type.


Service Change Input
•Customer/ Stakeholder feedback
•Agency studies and initiatives
•Performance and budget monitoring
•Changes in operating environment (legislative, economic, etc.)
Identify potential proposals, develop resource parameters and program objectives.
Develop alternatives and prepare preliminary program.
Notify public of potential changes and conduct community.
Modify program based on public input and seek Governance Council approval.
Implement and monitor.

5.1 INTERNAL REVIEW AND OVERSIGHT OF THE SERVICE CHANGE PROCESS

responsibilities of the Governance councils include: approval of the sector budget within designated funding levels; calling and conducting public hearings for sector bus lines; approval and evaluation of sector programs; implementation of service changes; review and development of policy recommendations to the MTA Board and ensuring compliance with MTA policies procedures and legal agreements.

The MTA has an internal review team, known as the Service Development Team, which provides oversight during the service change process. The committee includes the CEO, the COO, the Sector General Managers, the General Manager of Rail Operations and other key executive staff. The committee establishes targets and objectives for each service change program; helps to prioritize proposals; and provides a forum for coordination among the sectors, especially when there are proposals involving major bus lines serving two or more sectors. When there are service issues that cannot be resolved among the sectors, the Service Development Team will intervene. The Service Development Team also oversees the development of fare and service policies and other agency initiatives that will have a major impact on transit services.

5.2 PUBLIC INVOLVEMENT AND NOTIFICATION

Customer input and feedback are vital to the planning process. Throughout the process, and especially during the period leading up to the public hearing, staff conducts outreach activities to engage key stakeholders in the review process. These groups include: Councils of Governments, the MTA Citizen's Advisory Council, special advocacy groups and regional MTA subcommittees (Technical Advisory Committee, Bus Operations Subcommittee, and the Local Transit System Subcommittee). In addition to these formal groups, staff frequently meets with neighborhood and business groups to discuss specific proposals or issues of concern.

A number of efforts are made to notify the public and elected officials of pending changes in MTA bus and rail service. In advance of public hearings on MTA service changes, legal notices are published in several newspapers, and written notification and descriptions of the proposed changes are sent to elected officials and key stakeholder groups. Also, information is posted on the MTA website and there is an on-board system wide distribution of public hearing notices. There are also related press releases.

public with an opportunity to comment on major service change proposals approximately two weeks prior to the public hearing an information packet is prepared for the public. The packet includes maps and descriptions of the changes requiring a public hearing and estimates of ridership and financial impacts. This information is made available to the public through the Board Secretary's Office. After the public hearing, staff reviews all the feedback and develops final recommendations.

After a service change program is approved, a second round of public notification begins. This includes distributing brochures on bus lines that will be affected by the service change and advance distribution of new timetables. When key changes are being implemented, field representatives known as Transit Ambassadors go to major boarding locations in the system to distribute information and answer customer questions. When new lines are being implemented there are often targeted promotional campaigns, which include radio and print media, as well as promotional fares.

5.3 IMPLEMENTING MINOR CHANGES ON AN INTERIM BASIS

Minor service changes are generally route modifications that can be accommodated without impacting the vehicle or operator requirements of the service. Each Sector has been delegated the authority to make minor route modifications (not requiring a public hearing) not to exceed an annual cost based on the annual CEO signature authority. These limits are based on the CEO's signature authority. Minor changes to service are reported to the Board of Directors on a quarterly basis.

5.4 COORDINATION WITH OTHER OPERATORS

In addition to the service provided by the MTA, 40 other local operators provide fixed route service and there are more than 100 other local return and non-profit agencies that provide community based transportation services. As the regional planning agency for Los Angeles County, the MTA plays a lead coordination role.

The Bus Operations Subcommittee (BOS) and the Local Transit Systems Subcommittee (LTSS) were established to serve as a forum for interagency service coordination within Los Angeles County. These groups meet monthly at the MTA headquarters. The BOS is comprised of representatives from entities that provide fixed route bus and paratransit service and are eligible to receive funds from the Formula Allocation Process (FAP). The LTSS is comprised of representatives from entities

In April 2001, the MTA Board of Directors approved the Municipal Operations Service Improvement Program. As part of this program, $15 million of proposition C funds are programmed from 2002 through 2006. The funds were established to help reduce MTA operating costs in corridors where there is overlapping service and to reduce overcrowding.

In October 2002, a Regional Transit Plan was adopted. The plan outlines key service coordination issues and action plans for addressing them. The BOS is monitoring the implementation of the Regional Transit Plan. Key service issues include the implementation of the Universal Fare System, reducing service duplication, improving regional transit centers, and increasing the participation of the LTSS during the regional transit planning process.

As part of the MTA service Change process, the Sector General Managers are responsible for coordinating with the local operators and municipalities within their area. This includes providing an opportunity to participate in the planning process (service changes, rail feeder plans, bus/rail interface plans, system restructuring), and providing advance notification of service proposals, which may affect the local operators or communities within their sector. Similarly, the local operators are to provide the MTA with advance notification of proposals that may affect Metro Bus operators or ridership.

The MTA Transit Service Policy will be used to guide decision-making during the service change process and the development of other longer term plans, such as transition to the hub and spoke network. This policy will supersede any other agency service policies.

The application of the policy will be supported by service monitoring which will provide updated information on the performance of individual bus lines, the overall system and customer satisfaction. Specific system objectives will also be monitored, including the number of bus lines operating with peak hour headways greater than 30-minutes; the number of bus lines conforming with the minimum productivity indices, and seating capacity.

The transit policy reflects current practices and agency direction. However, the environment is constantly changing and the policy will be reviewed annually. Any changes to the policy will require the approval of the MTA Board of Directors.

Service Tiers - A functional classification of transit service used as a tool for guiding transit service development and coordination activities. Within Los Angeles County, a three-tier system is used to classify service. The Tiers are defined below:

- Tier 1 - This network of core regional service includes: Metro Rail, corridors proposed for BRT, Rapid Bus and the supporting core regional line haul services, as well as the core regional services operating in corridors included in the Metro Rapid Bus Expansion Plan. These bus lines generally carry over 10,000 passengers per day.

- Tier 2 - These are intercommunity bus routes that provide either line haul, express or limited stop service and supplement the Tier 1 network. These bus routes generally carry between 2,000 and 10,000 passengers per day, serve more than one community, and operate on primary arterials.

- Tier 3 - These are community based transportation services. They generally carry less than 2,000 passengers per day, operate on secondary streets and offer more limited hours of operation.

BUS ROUTES WITH PEAK HOUR TRUNK HEADWAYS GREATER THAN 30 MINUTES (EFFECTIVE JUNE 30, 2003)

Line	Description	Trunk Headway (Minutes)
102	East Jefferson Boulevard/Exposition Boulevard/Coliseum Boulevard	35-40
107	54th Street/Fairview Boulevard/Santa Ana Street	50
117/118	108th/Yukon Avenue/Manhattan Beach Boulevard	60
124	El Segundo Boulevard/Santa Fe Avenue	60
126	Yukon Avenue/Manhattan Beach Boulevard	60
127	CSUDH/Compton Boulevard/Bellflower Boulevard	60
128	Martin Luther King Jr. Transportation Center/La Mirada	50
130	Artesia Boulevard	31
154	Tampa Avenue/Ventura Boulevard/Burbank Boulevard/Oxnard St.	36
158	Devonshire St./Woodman Avenue	37
161	Westlake Village/Agoura Hills/Woodland Hills/Canoga Park	50
169	Chatsworth Transportation Center/Lassen Street/Paxton Street	60
169	Saticoy Street/Sunland Boulevard	60
170	CSULA/Montebello Town Center/El Monte Station	60
176	Glassel Park/Highland Park/El Monte Station	60
177	La Canada Flintridge/Pasadena/Monrovia/Duarte	60
201	Silverlake Boulevard/Glendale	40-50
209	Van Ness/Arlington Avenue	35
211	Prairie Avenue/South Bay Galleria Transit Center	45
215	Inglewood Avenue/Redondo Beach	45
220	Robertson Boulevard/Culver Boulevard/LAX City Bus Center	60
225/226	LAX/Aviation Boulevard/Prospect Avenue/Palos Verde Drive	60
239	White Oak Avenue/Zelzah Avenue/Rinaldi Avenue	40
245	Chatsworth Transportation Center/Topanga Boulevard	40-50
250/258	Boyle Avenue/State Street/Euclid Avenue/Evergreen Avenue	40
254	Rosa Parks Imperial/Wilmington Station/Lorena Street	60
255	Griffin Avenue/Rowan Avenue	60
256	Eastern Avenue/Avenue 64/North Hill Avenue	38
264	Altadena Drive/San Gabriel Boulevard/Montebello Town Center	60
266/275	Paramount Boulevard/Pico Rivera/Whittier/Cerritos	60
266	Rosemead Boulevard/Lakewood Boulevard	33
267	Temple City Boulevard/Del Mar Boulevard/Lincoln Avenue	35
268	El Monte Bus Station/Baldwin Avenue/ Jet Propulsion Labor.	45
270	Monrovia/El Monte/Norwalk/ Cerritos	50-60
439	Redondo Beach/LAX City Bus Center/Patsaouras Transit Plaza/Union Station Express	41
445	Union Station/Patsaouras Transit Plaza/Artesia Transitway Station/San Pedro	32
471	Puente Hills Mall-Whitwood Center via Colima Road	60
485	Altadena/Pasadena/Los Angeles Express	40

The route performance index is designed to provide an objective measure of a bus routes performance relative to other similar types of service. The index is based on system ridership and financial targets from the FY 2004 Operating Budget. The following categories are used during the performance evaluation process:

- Metro Local
- Metro Express
- Metro Rapid
- Metro Rail/Feeder Shuttles

The evaluation process focuses on three factors:

- **Utilization of Resources** – Boardings per service hour is used as a measure to determine how effectively resources are being used. This measure is determined by dividing the total number of boardings on the line by the service hours operated. Routes having a higher number of passengers per mile represent a better utilization of resources such as buses, operators and fuel.
- **Utilization of Capacity** - Passenger miles per seat miles is the measure used to evaluate how well the seating capacity of the system is being used. Passenger miles are calculated by multiplying the average distance traveled per passenger by the number of passengers using the service. Seat miles are calculated by determining the number of seats per vehicle and multiplying by the number of vehicles on the route and then by the number of service miles operated. The higher the resulting number, the greater the utilization of system capacity.
- **Fiscal Responsibility** - Subsidy per passenger is the measure for fiscal responsibility. Subsidy refers to the amount of public funding required to cover the difference between the cost of operation and the passenger revenues collected. Higher subsidy services require more public funding support.

The index for passengers per service hour and passenger miles per seat miles are normalized measures where the performance of the individual route is divided by the standard set for the category. The subsidy per passenger measure is an inverse relationship and is therefore calculated by dividing the category standard by the individual routes performance.

The following formula is used to develop the route performance index:

$$\text{Route Performance Index} = [(BSH_i/BSH) + (PMSM_i/PMSM) + (SUB/SUB_i)]$$

Explanation of Variables

BSH	Category standard for boardings per service hour performance measure
PMSM	Category standard for passenger miles per seat miles performance measure
SUB	Category standard for subsidy per passenger performance measure
BSH_i	Individual boardings per service hour measure for route during evaluation period

SUB_i Individual subsidy per passenger measure for route during evaluation period The route performance index is calculated and reported annually. The performance measurement standards for each route category are to be set annually relative to the percentage improvement of overall system performance relative to the previous years performance. This percentage improvement will be based on the performance objectives outlined in the FY 2004 Operating Budget.

The method for establishing the Route Performance Index standard for each category includes the following:

- Obtaining the budget performance measurement targets for FY 2004, and
- Increasing the average category performance measurement by the percentage increase established for that measure.

The mathematical explanation for this process is as follows:

$BSH_y = F_H[(1/n)\Sigma(BSHi)]$ $PMSM_y = Fc[(1/n)\Sigma(PMSM_i)]$ $SUB_y = Fs[(1/n)\Sigma(SUB_i)]$

Explanation of Variables

BSH_y Individual boardings per service hour performance measure for route for previous year

$PMSM_y$ Individual passenger miles per seat mile performance measure for route during previous year

SUB_y Individual subsidy per passenger performance measure for route during previous year

Σ Summation of all data items

F_H Passenger boardings per service hour adjustment relative to annual budget performance measurement goal

Fc Passenger miles per seat miles adjustment factor relative to annual budget performance measurement goals

Fs Subsidy per passenger adjustment factor relative to annual budget performance measurement goals

The result of this calculation would be the standard for the category for the remainder of the fiscal year.

To better illustrate how the index would vary according to the performance of an individual route, the performance index for three local bus routes was calculated using operating statistics from FY 2002. These bus routes include Route 207: Western Avenue which is one of the most heavily patronized bus lines in the system; Line 2: Sunset Boulevard which is a line that performs very close to the group average for local bus routes, and Route 264: San Gabriel Boulevard which is a low ridership bus route.

The resulting performance indices are shown in the following table. Route 207: Western Avenue has an index of 1.7 or about three times the .60 minimum performance index. The performance index for Route 2: Sunset Boulevard is 1.0, or 40 percent above the minimum performance standard. Line 264:San Gabriel Boulevard has a productivity index of .34, which is well below the minimum performance standard, and according to the transit policy, this service will require corrective action

ROUTE PERFORMANCE INDEX FOR SELECTED LOCAL BUS ROUTES

Line Number	Name of Line	Service Type	Subsidy per Pegr.	Boardings per Revenue Hr.	Pegr. Miles Per Seat Miles	Performance Index
207	WESTERN AVE.	Local	$0.59	83	0.5	**1.70**
2	SUNSET BLVD. - BEVERLY DR.	Local	$1.42	50	0.44	**1.00**
264	SAN GABRIEL BLVD.- ALTADENA DR.	Local	$4.46	20	0.13	**0.34**

Bus Priority – A system of traffic controls in which buses are given special treatment over forms of transportation.

Community Based Service – These are local or neighborhood oriented services that operate on secondary streets and generally serve short distance travel needs and carry less than 2,000 passengers per day.

Headway Based Schedule – A flexible service schedule where departure times are based on maintaining a certain interval between departures rather than fixed schedule times.

High Capacity Vehicle – Any bus that provides seating for more than 40 passengers. Includes double deck, 45-foot and articulated buses.

Paratransit Service – Service provided with a vehicle smaller than a 40-foot bus. This would include services such as DASH, ACCESS, and Dial-A-Ride services.

Passenger Loading – A measure used to evaluate seating utilization on a transit vehicle. It is usually expressed as the ratio of passengers to seats.

Passenger Mile- Cumulative passenger miles traveled by each passenger in revenue service.

Service Duplication – When tow or more services operate along the same streets, during the same hours of the day and serve common origins and destinations.

Service Warrants – Flexible guidelines used to determine when there is sufficient demand to support a specific type of transit service.

Shopper Survey - A physical interaction survey of operations to ensure conformance to quality, service, and safety standards. Results reported for employee performance, property condition, general liabilities, and product or service quality.

Span of Service - The days and hours when service is available.

Special Event Service – These are services that not part of the regular scheduled daily service to the general public and are oriented toward serving a special venue, on selected days.

Subsidy – The portion of the cost of operation that is not offset by passenger revenues. This can be expressed based on passenger boardings, service hours, passenger miles or other units of operation.

Trunk Service – This is the portion of a bus route or rail line that offers the most frequent service.